

ABSTRACT

A light source device includes: a light-emitting tube including a light-emitting portion that generates a light beam by an electric discharge between electrodes and sealing portions provided on both sides of the light-emitting portion; a
5 reflector including a neck portion provided with an insertion hole to which the light-emitting tube is inserted, and a reflecting portion integrally formed with the neck portion and having an ellipsoidal curved reflecting surface that irradiates forward the light beam emitted by the light-emitting portion after aligning in a predetermined direction. The light-emitting tube has a sub-reflection mirror that covers substantially
10 front half of the light-emitting portion. The reflector has a step formed between the peripheral edge of an opening end of the insertion hole near the reflecting surface. The external diameter of the step is larger than the external diameter of the sub-reflection mirror while the external diameter of the step is within the diameter of a valid reflection area of the reflector, the diameter being defined by a focal position
15 on the front side of the reflector and the outer periphery of the sub-reflection mirror. The step has a part where the reflecting surface is not deposited on the border with the valid reflection area.